

1 UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
2 REGION 9

3 In the matter of: )

4 San Gabriel Valley Superfund Sites, )  
5 Areas 1-4 )

6 RESPONDENTS: )

7 Teledyne Industries, Inc. )  
8 11361 Sunrise Park Drive )  
9 Rancho Cordova, CA 95742 )

10 Ted Levine Drum Co. )  
11 1807 North Chico Ave. )  
12 South El Monte, CA 91733 )

13 Proceeding Under Section 106(a) of the )  
14 Comprehensive Environmental Response, )  
15 Compensation, and Liability Act of 1980 )  
16 (42 U.S.C. § 9606(a)). )

U.S. EPA Docket  
No. 94 - 09

17 UNILATERAL ADMINISTRATIVE ORDER FOR  
18 REMEDIAL INVESTIGATION  
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## 1 I. AUTHORITY

2 This Administrative Order ("Order") is issued on this date  
3 pursuant to the authority vested in the President of the United  
4 States by Section 106(a) of the Comprehensive Environmental  
5 Response, Compensation, and Liability Act of 1980, 42 U.S.C.  
6 §106(a), as amended by the Superfund Amendments and  
7 Reauthorization Act of 1986, Pub. L. 99-499 ("CERCLA"). The  
8 President delegated this authority to the Administrator of the  
9 United States Environmental Protection Agency ("EPA" or "Agency")  
10 by Executive Order 12580, January 23, 1987, 52 Fed. Reg. 2923,  
11 and further delegated it to the Assistant Administrator for Solid  
12 Waste and Emergency Response and the Regional Administrators by  
13 EPA Delegation Nos. 14-8-A and 14-14-C. This authority has been  
14 redelegated to the Director, Hazardous Waste Management Division,  
15 EPA, Region 9 ("Director") by Region 9 Delegations 1290.41 and  
16 1290.42.

## 17 II. DEFINITIONS

18 A. The San Gabriel Valley Superfund Site, Areas 1-4 are  
19 located in suburban Los Angeles County in Southern California.  
20 There are four areas of groundwater contamination listed on the  
21 National Priorities List (San Gabriel Valley Areas 1-4).  
22 Included within the sites are significant portions of the cities  
23 of La Puente, City of Industry, Azusa, Baldwin Park, Irwindale,  
24 West Covina, El Monte, South El Monte, Monrovia, Arcadia,  
25 Rosemead, and Alhambra.

26 B. Area 1 of the San Gabriel Valley Superfund Site was  
27 placed on the National Priorities List due to contamination of  
28 groundwater by tetrachloroethene ("PCE") and other organic

1 solvents. Area 1 of the San Gabriel Valley Superfund Site  
2 includes groundwater contamination located in the cities of EL  
3 Monte and South EL Monte and neighboring areas in Los Angeles  
4 County.

5 C. The Ted Levine Drum Company is a facility  
6 ("Respondents facility") located at 1729 - 1817 North Chico  
7 Avenue, South El Monte, California. The Respondents' facility is  
8 located in Area 1 of the San Gabriel Valley Superfund Site.

9 D. Respondents' facility and every location at which work  
10 is being performed pursuant to this Order shall be referred to as  
11 the "Site" for the purposes of this Order.

12 E. "Day" means calendar day unless otherwise noted in this  
13 Order.

### 14 III. PARTIES BOUND

15 A. This Order shall apply to and be binding upon Teledyne  
16 Industries Incorporated, a Delaware Corporation ("Teledyne"), and  
17 Ted Levine Drum Company, a California Corporation ("Ted Levine  
18 Drum"), (hereinafter referred to as or "Respondents"), their  
19 agents, successors and assigns. No change in ownership or  
20 operational status will alter Respondents' obligations under this  
21 Order. Respondents shall provide a copy of this Order to all  
22 contractors, subcontractors, laboratories, and consultants which  
23 are retained by Respondents to perform the work required by this  
24 Order, within five (5) days after the Effective Date of this  
25 Order or within five (5) days of retaining their services.  
26 Notwithstanding the terms of any contract or agreement,  
27 Respondents are responsible for compliance with this Order and  
28 for ensuring that their employees, contractors, and agents comply

1 with this Order.

2 B. Respondents shall not convey any title, easement, or  
3 other interest it may have in any property comprising the  
4 Respondents' respective facility, and Respondents shall not  
5 convey any interest in the corporation, without a provision  
6 permitting the continuous implementation of the provisions of  
7 this Order. Respondents shall provide a copy of this Order to  
8 any subsequent owner(s) or successor(s) before any ownership  
9 rights are transferred. Respondents shall advise EPA in advance  
10 of any anticipated transfer of interest.

11 IV. FINDINGS OF FACT

12 A. Ted Levine Drum has operated a plastic and steel drum  
13 reconditioning and storage facility at the Respondents' facility  
14 since approximately 1984. The Respondents' facility is owned by  
15 Teledyne and leased to Ted Levine Drum Co.

16 B. Teledyne purchased the Respondents' facility in  
17 approximately 1970. The Respondents' facility was used for wax  
18 injection and heat treating by Teledyne until approximately 1983.  
19 During this period various chemicals were stored and used at the  
20 site including film developers and fixers, caustics, acids and  
21 penetrant oils.

22 C. The Respondents' facility includes a former lagoon  
23 area. The lagoon area received process wash water from 1954  
24 until 1964 when it was backfilled. A 1000 - gallon below grade  
25 clarifer was used at the Respondents' facility from approximately  
26 1965 until 1987 to hold waste water discharge. A new 1,000  
27 gallon above grade clarifier was installed in 1987 and uses the  
28 same outlet connection to the sewer line used by the "old"

1 clarifier. The Respondents' facility also contains a former  
2 septic tank, leach field, and various floor drains.

3 D. In December, 1991, Teledyne submitted a workplan to the  
4 Regional Water Quality Control Board - Los Angeles Area (RWQCB)  
5 for investigation of soil contamination at the Respondents'  
6 facility. The RWQCB deemed the workplan insufficient to  
7 delineate the lateral and vertical distribution of both vapor and  
8 non-vapor phase soil contamination.

9 E. Despite warnings of inadequacy from the RWQCB that the  
10 workplan only partially addressed the investigations needed,  
11 Teledyne proceeded with sampling without approval from the RWQCB  
12 in September, 1992.

13 F. Holding times were exceeded for more than half the soil  
14 samples collected and submitted for chlorinated volatile organic  
15 compound (VOC) analyses during the September, 1992 sampling. The  
16 remaining soil samples submitted for VOC analyses were held to  
17 within one or two days of the maximum holding time for VOC  
18 analyses. Despite the extended holding time, VOC contamination  
19 was confirmed in a number of samples. Due to the extended  
20 holding time, EPA and the RWQCB consider the detected values to  
21 be lower than actual concentrations. VOC contamination found at  
22 the site included tetrachloroethene (PCE) as high as 310 ug/kg,  
23 trichloroethene (TCE) as high as 50 ug/kg, cis- 1,2 -  
24 dichloroethene (DCE) as high as 19 ug/kg, and 1,1- dichloroethane  
25 (DCA) as high as 33 ug/kg.

26 G. Analytical results also confirmed discharge of acids  
27 (pH as low as 3.6 and sulfates as high as 2,700 mg/kg) and heavy  
28 metals at the site. Lead, chromium and nickel were reported

1 above their respective soluble threshold concentration limits  
2 (STLCs).

3 H. Depth to groundwater in the vicinity of the  
4 Respondents' facility is shallow and many of the contaminants  
5 identified in soil samples collected at the Respondents' facility  
6 have been found in nearby groundwater monitoring wells.

7 V. CONCLUSIONS OF LAW

8 A. Respondents' facility is a "facility" as defined in  
9 Section 101(9) of CERCLA, 42 U.S.C. §9601(9).

10 B. Respondents are "persons" as defined in Section 101(21)  
11 of CERCLA, 42 U.S.C. §9601(21).

12 C. Analyses of samples collected during investigations  
13 conducted at the Respondents' facility indicate the presence of  
14 TCE, PCE, cis- 1,2 DCE, DCA, lead, chromium and nickel. These  
15 substances are "hazardous substances" as defined in Section  
16 101(14) of CERCLA, 42 U.S.C. §9601(14).

17 D. The past, present, and potential migration of hazardous  
18 substances from Respondents' facility constitutes an actual or  
19 threatened "release" as defined in Section 101(22) of CERCLA, 42  
20 U.S.C. §9601(22).

21 E. Respondents either own or operate a facility where  
22 hazardous substances have come to be located. Respondents are  
23 potentially responsible parties as defined in Section 107(a) of  
24 CERCLA, 42 U.S.C. §9607(a).

25 VI. DETERMINATIONS

26 A. The Director has determined that an actual or  
27 threatened release of hazardous substances from the Respondents'  
28 facility may present an imminent and substantial endangerment to



1 the public health or welfare or the environment.

2 B. The actions required by this Order are necessary to  
3 protect the public health, welfare and the environment.

4 C. If performed satisfactorily, the actions required by  
5 this Order are consistent with the National Contingency Plan, 40  
6 C.F.R. Part 300 ("NCP").

7 VII. NOTICE TO THE STATE

8 Pursuant to Section 106(a) of CERCLA, 42 U.S.C. §9606(a),  
9 EPA has notified the State of California of the issuance of this  
10 Order by providing the Regional Water Quality Control Board and  
11 California Department of Toxic Substances Control a copy of this  
12 Order.

13 VIII. WORK TO BE PERFORMED

14 A. General Provisions

15 1. All work shall be conducted in accordance with:  
16 CERCLA; the NCP; EPA "Guidance for Conducting Remedial Investiga-  
17 tions and Feasibility Studies Under CERCLA" (EPA, October 1988);  
18 "Preparation of a U.S. EPA Region 9 Field Sampling Plan for  
19 Private and State-Lead Superfund Projects (EPA, August, 1993);  
20 U.S. EPA Region 9 Guidance for Preparing Quality Assurance  
21 Project Plans for Superfund Remedial Projects" (EPA, September,  
22 1989); State of California, California Regional Water Quality  
23 Control Board - Los Angeles Region, "Work Plan Requirements For  
24 Active Soil Gas Investigation Well Investigation Program  
25 (WIP)" (Attachment III); any final amended or superseding versions  
26 of such documents provided by EPA; other applicable EPA guidance  
27 documents; and any report, document or deliverable prepared by  
28 EPA because Respondents fail to comply with this Order.

1           2. All plans, schedules, and other reports that  
2 require EPA's approval and are submitted by Respondents pursuant  
3 to this Order are incorporated into this Order upon approval by  
4 EPA.

5           3. All work performed by or on behalf of Respondents  
6 pursuant to this Order shall be performed by qualified  
7 individuals and/or contractors with expertise in hazardous waste  
8 site investigation. The qualifications of the persons,  
9 contractors, and subcontractors undertaking the work for  
10 Respondents shall be subject to EPA review.

11           4. EPA will oversee Respondents' activities as  
12 specified in Section 104(a)(1) of CERCLA Section, 42 U.S.C.  
13 §9604(a)(1). Respondents shall support EPA's initiation and  
14 conduct of activities carried out in its oversight  
15 responsibilities.

16           5. To provide quality assurance, maintain quality  
17 control, and satisfy chain of custody requirements, Respondent  
18 shall: (a) use a laboratory which has a documented Quality As-  
19 surance Program that complies with EPA guidance (EPA, September  
20 1989); and (b) ensure that the laboratory used by Respondents for  
21 analysis performs such analyses according to a method or methods  
22 approved by EPA in the Field Sampling Plan and/or Quality  
23 Assurance Project Plan to be submitted by Respondents.

24           6. Respondents shall cooperate and participate with  
25 each other in performing the work required by this Order and  
26 shall coordinate their work activities with the activities of the  
27 other Respondents.

1        B.    Work and Deliverables

2            1.    Based on the Findings of Fact, Conclusions of Law,  
3 and Determinations, EPA hereby orders Respondents to perform the  
4 following work under the direction of the EPA's Remedial Project  
5 Manager, and to comply with all the requirements of this Order.  
6 Respondents will furnish all personnel, materials, and services  
7 needed, or incidental to, performing the Investigation, except as  
8 otherwise specified in the Order.

9            2.    Respondents shall initiate activities necessary to  
10 satisfy the following objectives: determine the full lateral and  
11 vertical extent of vapor phase and non-vapor phase contamination  
12 in the unsaturated (vadose) zone resulting from releases of  
13 hazardous substances at the Respondents' facility, resample soil  
14 matrix at select locations, and determine the full lateral and  
15 vertical impact of contamination to groundwater at the site.  
16 Respondents shall prepare a workplan fully addressing the  
17 elements of Attachments I, II and III. The workplan is due  
18 within 20 days after the effective date of this order.

19           3.    Respondents shall maintain field and laboratory  
20 records and reports, including field logs, sample shipment  
21 records, analytical results, and quality assurance reports, to  
22 ensure that only validated analytical data are reported to and  
23 utilized by EPA. Field logs must be utilized to document  
24 observations, measurements, and significant events that occur  
25 during field activities. Laboratory reports must document sample  
26 custody, analytical responsibility, analytical results, adherence  
27 to prescribed protocols, nonconformity events, corrective  
28 measures, and/or data deficiencies. In addition, Respondents

1 will establish a data security system to safeguard chain-of-  
2 custody forms and other project records to prevent loss, damage,  
3 or alteration of project documentation.

4           4. Respondents shall: (a) provide notification to  
5 EPA as described below; (b) prepare a Field Sampling Plan  
6 ("FSP"); (c) prepare a Quality Assurance Project Plan ("QAPP");  
7 (d) prepare a Health & Safety Plan; and (e) prepare a final  
8 Remedial Investigation Report. These documents and actions are  
9 necessary to ensure that sample collection and analytical  
10 activities are conducted in accordance with technically  
11 acceptable protocols, that data quality objectives are  
12 established and met, and to otherwise meet the requirements of  
13 this Order. The Field Sampling Plan, Quality Assurance/Quality  
14 Control Plan, and Health and Safety Plan may be submitted  
15 separately or as a single document. These tasks are described  
16 below.

17           5. Respondents shall notify EPA in writing of the  
18 name, title and qualifications of the individual(s) who will be  
19 responsible for carrying out the terms of this Order, and the  
20 name(s) of all contractors or subcontractors. Notification will  
21 be provided within fourteen (14) days after the Effective Date of  
22 this Order.

23           6. If EPA disapproves in writing of any person's or  
24 contractor's technical and/or experience qualifications, EPA will  
25 notify Respondents in writing, and Respondents shall subsequently  
26 notify EPA within fourteen (14) days of Respondents' receipt of  
27 EPA's written notice, of the identity and qualifications of the  
28 replacement(s). A subsequent EPA disapproval of the

1 replacement(s) shall be deemed a failure to comply with the  
2 Order.

3           7. Subsequent to approval by EPA of the individuals,  
4 contractors, or subcontractors who will be responsible for the  
5 investigation, Respondents may propose that different  
6 individuals, contractors and/or subcontractors direct and  
7 supervise the work required by this Order. If Respondents wish  
8 to propose such a change, Respondents shall notify EPA in writing  
9 of the name, title, and qualifications of the proposed in-  
10 dividuals and the names of proposed contractors and/or sub-  
11 contractors. Any such individual, contractors and/or sub-  
12 contractors shall be subject to approval by EPA. EPA shall give  
13 Respondents its approval or disapproval within fourteen (14) days  
14 of receiving from Respondents the information required by this  
15 paragraph. The naming of any replacement(s) by Respondents shall  
16 not relieve Respondents of any of its obligations to perform the  
17 work required by this Order. A subsequent EPA disapproval of the  
18 replacement(s) shall be deemed a failure to comply with the  
19 Order.

20           8. Respondents shall prepare a Field Sampling Plan  
21 ("Sampling Plan") in accordance with EPA guidelines (EPA, April  
22 1990). It shall include:

23                   (a) a summary of the Site's geographic location,  
24 and Site geology, hydrogeology and hydrology;

25                   (b) a summary of the Site's operational history  
26 including the past and present locations of underground and  
27 above-ground tanks, baths, vapor degreasers, clarifiers, sumps,  
28 or other structures where solvents or other hazardous substances

1 are or were used, stored, or discharged;

2 (c) a compilation and review all existing Site  
3 data describing the types, locations, and quantities of hazardous  
4 substances used and/or released at the Site including a review of  
5 the results from previous sampling and clean-up activities;

6 (d) a detailed list of tasks to be performed to  
7 fulfill the requirements of this Order; and

8 (e) a description of sampling objectives; sample  
9 location and frequency including quality control samples,  
10 sampling equipment and methodologies; sample handling and  
11 analysis; and other aspects of the work to be performed. (Where  
12 appropriate, Respondents shall use the protocols and analytical  
13 methods addressed in documents included in the Attachment.

14 9. Respondents may cite relevant portions of these  
15 documents in the Field Sampling Plan and Quality Assurance  
16 Project Plan. Respondents shall evaluate and incorporate into  
17 the Field Sampling Plan and/or Quality Assurance Project Plan any  
18 necessary protocols and analytical methods that are not addressed  
19 in documents included in the Attachment.

20 10. The Draft Sampling Plan is due 30 days after the  
21 Effective Date of this Order. The Final Sampling Plan is due 15  
22 days after Respondents have received EPA comments on the Draft  
23 Sampling Plan. EPA must review and approve the Sampling Plan and  
24 Quality Assurance Project Plan before any field activity is  
25 initiated.

26 11. Respondents shall prepare a Quality Assurance  
27 Project Plan in accordance with EPA guidelines (EPA, September  
28 1989). It shall include (to the extent not included in the Field

1 Sampling Plan):

2 (a) a description of data quality objectives;

3 (b) a description of method(s) used in the  
4 investigation to document and record compliance with field and  
5 laboratory procedures (e.g., field logs, laboratory reports);

6 (c) information sufficient to demonstrate, to  
7 EPA's satisfaction, that each laboratory used by Respondent is  
8 qualified to conduct the proposed work (e.g., ability to meet  
9 required detection and quantification limits for chemicals of  
10 concern in the media of interest);

11 (d) if the selected laboratory does not  
12 participate in EPA's Contract Laboratory Program ("CLP"),  
13 Respondents must submit documentation to demonstrate that the  
14 laboratory uses methods consistent with CLP methods and quality  
15 assurance requirements (e.g., detailed information to demonstrate  
16 the adequacy of the laboratory's quality assurance program;  
17 information on personnel qualifications, equipment and material  
18 specifications);

19 (e) assurances that EPA has access to laboratory  
20 personnel, equipment and records; and

21 (f) other aspects of quality assurance not  
22 addressed in the Field Sampling Plan.

23 12. Respondents may reference, rather than repeat,  
24 information contained in the Field Sampling Plan or in documents  
25 listed in the Attachment if the necessary techniques, protocols  
26 and quality assurance procedures are already described in those  
27 documents.

28

1           13. The Draft Quality Assurance Project Plan is due 30  
2 days after the Effective Date of this Order. The Final Quality  
3 Assurance Project Plan is due 15 days after Respondents have  
4 received EPA comments on the Draft Quality Assurance Project  
5 Plan. EPA must review and approve the Sampling Plan and Quality  
6 Assurance Project Plan before any field activity is initiated.

7           14. Respondents shall prepare a Health and Safety Plan  
8 in conformance with Respondents' health and safety program, and  
9 in compliance with Occupational Safety & Health Act ("OSHA")  
10 regulations and protocols. The Health and Safety Plan will  
11 include the eleven (11) elements described in EPA Guidance (EPA,  
12 October 1988), such as a health and safety risk analysis, a  
13 description of monitoring and personal protective equipment, and  
14 medical monitoring.

15           15. The Health & Safety Plan is due 30 days after the  
16 Effective Date of this Order.

17           16. Respondents shall notify EPA of planned dates for  
18 field activities at least ten (10) days before initiating sam-  
19 pling so that EPA may adequately schedule oversight tasks.

20           17. Respondents shall notify EPA in writing upon  
21 completion of field activities.

22           18. After completing field sampling and analysis,  
23 Respondents shall prepare a draft Remedial Investigation (RI)  
24 report describing the results of the remedial investigation. EPA  
25 guidance (EPA, October 1988) provides an outline of the report  
26 format and contents. The RI report shall:

27                 (a) include a review of all investigative  
28 activities that have taken place;



(b) include an analysis and evaluation of the data to describe physical characteristics of the Precision Facility, contaminant source characteristics, the nature and extent of contamination in the unsaturated zone, and contaminant fate and transport;

(c) describe and display data which document the location, types, physical state, and concentration of contaminants at the Site;

(d) demonstrate that quality assurance requirements approved by EPA and specified in the Field Sampling Plan and Quality Assurance Project Plan are met; and

(e) include as appendices a summary of all validated data, field logs, chain of custody forms, and any other information used to document the findings of the remedial investigation.

19. The Draft Report is due to EPA 45 days after the field work is completed. Respondents shall prepare a final Remedial Investigation report which satisfactorily addresses EPA's comments within 21 days after Respondents receive EPA comments on the Draft Report.

20. With the exception of the Health & Safety Plan, EPA shall review, comment, and approve or disapprove each plan, report, or other deliverable submitted by Respondents. All EPA comments on draft deliverables shall be incorporated by Respondents. EPA intends to review all plans (with the exception of the Health & Safety Plan), reports, or other deliverables within thirty (30) days of receipt of each document. EPA shall notify Respondents in writing of EPA's approval or disapproval of a

1 final deliverable or if EPA requires additional review time. In  
2 the event of any disapproval, EPA shall specify the reasons for  
3 such disapproval, EPA's required modifications, and a time frame  
4 for submission of the revised report, document, or deliverable.  
5 If the modified report, document or deliverable is again  
6 disapproved by EPA, EPA shall first notify Respondents and then  
7 may draft their own report, document or deliverable and  
8 incorporate it as part of this Order, and/or seek penalties from  
9 Respondents for failing to comply with this Order, and/or conduct  
10 the remaining work required by this Order.

11 21. All documents, including technical reports, and  
12 other correspondence to be submitted by Respondents pursuant to  
13 this Order, shall be sent by U.S. mail to the following  
14 addressees or to such other addressees as EPA hereafter may  
15 designate in writing, and shall be deemed submitted on the date  
16 received by EPA. Respondents shall submit three (3) copies of  
17 each document to EPA, one copy to the Regional Board, and one  
18 copy to Department of Toxic Substances Control.

19 22. The three copies of each document to be submitted  
20 to EPA shall be sent to:

21 Glenn Kistner  
22 Remedial Project Manager (H-6-5)  
23 Hazardous Waste Management Division  
24 U.S. EPA, Region 9  
75 Hawthorne Street  
San Francisco, CA 94105  
Phone: (415) 744-2252

25 One copy shall be sent to:

26 Dr. Robert Ghirelli  
27 California Regional Water Quality Control Board  
101 Centre Plaza Drive  
28 Monterey Park, CA 91754

1 One copy shall be sent to:

2 Mike Sorensen  
3 California Department of TOxic Substances Control  
4 P.O. Box 942732  
5 Sacramento, CA 94234-7320

6 23. Field work shall begin no later than thirty (30) days  
7 after EPA has approved the Field Sampling Plan and Quality  
8 Assurance Project Plan.

9 IX. SAMPLING, ACCESS, AND DATA/DOCUMENT AVAILABILITY

10 A. At the request of EPA, Respondents shall provide to EPA  
11 and/or its authorized representatives split samples or duplicates  
12 of samples collected by Respondents as part of the investigation.

13 B. Nothing in this Order shall be interpreted as limiting  
14 EPA's inspection or information-gathering authority under federal  
15 law.

16 C. EPA personnel and/or EPA authorized representatives  
17 shall be allowed access to the laboratory and personnel used by  
18 Respondents for laboratory analyses.

19 D. For purposes of this Order, EPA's authorized  
20 representatives shall include, but not be limited to, staff of  
21 the Regional Board, Department of Toxic Substances Control, and  
22 consultants and contractors hired by EPA to oversee activities  
23 required by this Order.

24 X. OTHER APPLICABLE LAWS

25 A. Respondents shall undertake all actions required by  
26 this Order in accordance with the requirements of all applicable  
27 local, state, and federal laws and regulations unless an  
28 exemption from such requirements is specifically provided under  
CERCLA or unless Respondents obtain a variance or exemption from

1 the appropriate governmental authority.

2 B. Any materials removed from the Site shall be disposed  
3 of or treated at a facility in accordance with Section 121(d)(3)  
4 of CERCLA, 42 U.S.C. §9621(d)(3), EPA's Revised Off-Site Policy,  
5 and all other applicable Federal, State and local requirements.

6 XI. RECORD PRESERVATION

7 Respondents shall maintain, during the pendency of this  
8 Order and for a minimum of twenty (20) years after EPA provides  
9 notice to Respondents that the work has been completed, a central  
10 depository of the records and documents required to be prepared  
11 under this Order. In addition, Respondents shall retain copies  
12 of the most recent version of all documents that relate to  
13 hazardous substances at the Site and that are in its possession  
14 or in the possession of its employees, agents, contractors, or  
15 attorneys. After this twenty year period, Respondents shall  
16 notify EPA at least thirty (30) days before the documents are  
17 scheduled to be destroyed. If EPA so requests, Respondents shall  
18 provide these documents to EPA.

19 XII. DESIGNATED PROJECT MANAGERS

20 A. EPA designates Glenn Kistner, an employee of Region 9  
21 of EPA, as its Remedial Project Manager ("RPM") who shall have  
22 the authorities, duties, and responsibilities vested in the RPM  
23 by the NCP. Within fifteen (15) days of the Effective Date of  
24 this Order, Respondents shall designate a Project Coordinator who  
25 shall be responsible for overseeing Respondents' implementation  
26 of this Order. The EPA RPM will be EPA's designated  
27 representative at the facility. To the maximum extent possible,  
28 all oral communications between Respondents and EPA concerning

1 the activities performed pursuant to this Order shall be directed  
2 through EPA's RPM and Respondents' Project Coordinator. All  
3 documents, including progress and technical reports, approvals,  
4 and other correspondence concerning the activities performed  
5 pursuant to the terms and conditions of this Order, shall be  
6 delivered in accordance with Paragraph VIII B.22.

7 B. EPA and Respondents may change their respective RPM and  
8 Project Coordinator. Such a change shall be accomplished by  
9 notifying the other party in writing at least seven (7) days  
10 prior to the change except in the case of an emergency, in which  
11 case notification shall be made orally followed by written  
12 notification as soon as possible.

13 C. Consistent with the provisions of this Order, the EPA  
14 RPM shall also have the authority vested in the On-Scene  
15 Coordinator ("OSC") by the NCP, unless EPA designates a separate  
16 individual as OSC, who shall then have such authority. This  
17 includes, but is not limited to, the authority to halt, modify,  
18 conduct, or direct any tasks required by this Order and/or  
19 undertake any response actions (or portions of the response  
20 action) when conditions present or may present a threat to public  
21 health or welfare or the environment as set forth in the NCP.

22 D. The absence of the EPA RPM or the OSC from the Site  
23 shall not be cause for the stoppage of work. Nothing in this  
24 Order shall limit the authority of the EPA RPM or OSC under  
25 federal law.

26  
27 XIII. MODIFICATION OF WORK REQUIRED

28 A. In the event of unanticipated or changed circumstances

1 at the facility, Respondents shall notify the EPA RPM by  
2 telephone within twenty-four (24) hours of discovery of the new  
3 or changed circumstances. This verbal notification shall be  
4 followed by written notification postmarked within three (3) days  
5 of discovery of the new or changed circumstances.

6 B. The Director may determine that in addition to tasks  
7 addressed herein, additional work may be required. Where consis-  
8 tent with Section 106(a) of CERCLA, the Director may direct as an  
9 amendment to this Order that Respondents perform these response  
10 actions in addition to those required herein by any plan.

11 Respondents shall implement the additional tasks which the  
12 Director identifies. The additional work shall be completed  
13 according to the standards, specifications, and schedules set  
14 forth by the Director.

15 XIV. SITE ACCESS

16 A. Respondents shall permit EPA and its authorized  
17 representatives to have access at all times to the Site to  
18 monitor any activity conducted pursuant to this Order to conduct  
19 such tests or investigations as EPA deems necessary. Nothing in  
20 this Order shall be deemed a limit upon EPA's authority under  
21 federal law to gain access to the Site.

22 B. To the extent that Respondents require access to land  
23 other than land they own in carrying out the terms of this Order,  
24 Respondents shall, within forty-five (45) days of the Effective  
25 Date of this Order, obtain access for EPA, its contractors and  
26 oversight officials; state oversight officials and state  
27 contractors; and Respondents or their authorized representatives.  
28 If Respondents fail to gain access within forty-five (45) days,

1 they shall continue to use best efforts to obtain access until  
2 access is granted. For purposes of this paragraph, "best  
3 efforts" includes but is not limited to, seeking judicial  
4 assistance and the payment of money as consideration for access.  
5 If access is not provided within the time referenced above, EPA  
6 may obtain access under Sections 104(e) or 106(a) of CERCLA.

7 XV. DELAY IN PERFORMANCE

8 A. Any delay in performance of this Order that, in the  
9 EPA's judgment, is not properly justified by Respondents under  
10 the terms of this Section shall be considered a violation of this  
11 Order. Any delay in performance of this Order shall not affect  
12 Respondents' obligations to fully perform all obligations under  
13 the terms and conditions of this Order.

14 B. Respondents shall notify EPA of any delay or  
15 anticipated delay in performing any requirement of this Order.  
16 Such notification shall be made by telephone to EPA's RPM within  
17 twenty-four (24) hours after Respondents first knew or should  
18 have known that a delay might occur. Respondents shall adopt all  
19 reasonable measures to avoid or minimize any such delay. Within  
20 three (3) days after notifying EPA by telephone, Respondents  
21 shall provide written notification fully describing the nature of  
22 the delay, any justification for delay, any reason why  
23 Respondents should not be held strictly accountable for failing  
24 to comply with any relevant requirements of this Order, the  
25 measures planned and taken to minimize the delay, and a schedule  
26 for implementing the measures that will be taken to mitigate the  
27 effect of the delay. Increased costs or expenses associated with  
28 implementation of the activities called for in this Order are not

1 justifications for any delay in performance.

2 C. If Respondents are unable to perform any activity or  
3 submit any document within the time required under this Order,  
4 Respondents may, prior to the expiration of the time, request an  
5 extension of time in writing. The extension request shall  
6 include a justification for the delay. Submission of an  
7 extension request shall not affect Respondents' obligation to  
8 comply with the requirements of this Order.

9 D. If EPA determines that good cause exists for an  
10 extension of time, it may grant a request made pursuant to  
11 Subparagraph C, above, and specify in writing a new schedule for  
12 completion of the activity and/or submission of the document.

13 XVI. ENDANGERMENT AND EMERGENCY RESPONSE

14 A. In the event of any action or occurrence during the  
15 performance of the work which causes or threatens to cause a  
16 release of a hazardous substance or which may present an  
17 immediate threat to public health or welfare or the environment,  
18 Respondents shall immediately take all appropriate action to  
19 prevent, abate, or minimize the threat, and shall immediately  
20 notify EPA's RPM, or, if the RPM is unavailable, EPA's OSC. If  
21 neither of these persons is available, Respondents shall notify  
22 the EPA Emergency Response Unit, Region 9, phone number (415)  
23 744- 2000. Respondents shall take such action in consultation  
24 with EPA's RPM and in accordance with all applicable provisions  
25 of this Order, including but not limited to the Health and Safety  
26 Plan.

27 B. Nothing in the preceding paragraph shall be deemed to  
28 limit any authority of the United States to take, direct, or



1 order all appropriate action to protect human health and the  
2 environment or to prevent, abate, or minimize an actual or  
3 threatened release of hazardous substances on, at, the Site.

4 XVII. ASSURANCE OF ABILITY TO COMPLETE WORK

5 A. Respondents shall demonstrate their ability to complete  
6 the work required by this Order and to pay all claims that arise  
7 from the performance of the work by obtaining and presenting to  
8 EPA within thirty (30) days after approval of the Work Plan , one  
9 of the following: (1) a performance bond; (2) a letter of credit;  
10 (3) a guarantee by a third party; or (4) internal financial in-  
11 formation to allow EPA to determine that Respondents have suffi-  
12 cient assets available to perform the work. Respondents shall  
13 demonstrate financial assurance in an amount no less than the es-  
14 timate of cost for the remedial investigation. If Respondents  
15 seek to demonstrate ability to complete the remedial  
16 investigation by means of internal financial information, or by  
17 guarantee of a third party, Respondents shall re-submit such  
18 information every six months from the Effective Date of this  
19 Order. If EPA determines that such financial information is  
20 inadequate, Respondents shall, within fifteen (15) days after  
21 receipt of EPA's notice of determination, obtain and present to  
22 EPA for approval on the other forms of financial assurance listed  
23 above.

24 B. At least twenty-one (21) days prior to commencing any  
25 work at the Site pursuant to this Order, Respondents shall submit  
26 to EPA a certification that Respondents or their contractors and  
27 subcontractors have adequate insurance coverage or has  
28 indemnification for liabilities for injuries or damages to

1 persons or property which may result from the activities to be  
2 conducted by or on behalf of Respondents pursuant to this Order.  
3 Respondents shall ensure that such insurance or indemnification  
4 is maintained for the duration of performance of the work  
5 required by this Order.

#### 6 XVIII. DISCLAIMER

7 The United States, by issuance of this Order, assumes no  
8 liability for any injuries or damages to persons or property  
9 resulting from acts or omissions by Respondents, or their  
10 employees, agents, successors, assigns, contractors, or  
11 consultants in carrying out any action or activity pursuant to  
12 this Order. Neither EPA nor the United States shall be held as a  
13 party to any contract entered into by Respondents, or their  
14 employees, agents, successors, assigns, contractors, or  
15 consultants in carrying out any action or activity pursuant to  
16 this Order.

#### 17 XIX. ENFORCEMENT AND RESERVATIONS

18 A. EPA reserves the right to bring an action against  
19 Respondents or any single Respondent under Section 107 of CERCLA,  
20 42 U.S.C. §9607, for recovery of any response costs incurred by  
21 the United States related to this Order and not reimbursed by  
22 Respondents. This reservation shall include but not be limited  
23 to past costs, direct costs, indirect costs, the costs of  
24 oversight, the costs of compiling the cost documentation to  
25 support oversight cost demand, as well as accrued interest as  
26 provided in Section 107(a) of CERCLA, 42 U.S.C. §9607.

27 B. Notwithstanding any other provision of this Order, at  
28 any time during the response action, EPA may perform its own

1 studies, complete the response action (or any portion of this  
2 response action) and seek reimbursement from Respondents or any  
3 single Respondent, for its costs, or seek any other appropriate  
4 relief.

5 C. Nothing in this Order shall preclude EPA from taking  
6 any additional enforcement action, including modification of this  
7 Order or issuance of additional Orders, and/or additional  
8 remedial or removal actions as EPA may deem necessary, or from  
9 requiring Respondents or any single Respondent in the future to  
10 perform additional activities pursuant to CERCLA, 42 U.S.C.  
11 §9607(a), et seq., or any other applicable law. Respondents or  
12 any single Respondent shall be liable under CERCLA Section  
13 107(a), 42 U.S.C. §9607(a), for the costs of any such additional  
14 actions.

15 D. Notwithstanding any provision of this Order, the United  
16 States hereby retains all of its information gathering,  
17 inspection and enforcement authorities and rights under CERCLA,  
18 the Resource Conservation and Recovery Act ("RCRA"), or any other  
19 applicable statutes or regulations.

20 E. Each Respondent shall be subject to civil penalties  
21 under Section 106(b) of CERCLA, 42 U.S.C. §9606(b), of not more  
22 than \$25,000 for each day in which the Respondent willfully  
23 violates or fails to comply with the requirements of this Order.  
24 In addition, failure to take response action in compliance with  
25 this Order, or any portion hereof, without sufficient cause, may  
26 result in liability under Section 107(c)(3) of CERCLA, 42 U.S.C.  
27 §9607(c)(3), for punitive damages in an amount at least equal to,  
28 and not more than three (3) times the amount of any costs

1 incurred by the Hazardous Substance Superfund, as a result of  
2 such failure to comply.

3 F. Notwithstanding compliance with the terms of this  
4 Order, including the completion of an EPA-approved remedial  
5 investigation, Respondents are not released from liability, if  
6 any, for any enforcement actions beyond the terms of this Order  
7 taken by EPA.

8 G. EPA reserves the right to take any enforcement action  
9 pursuant to CERCLA and/or any other legal authority, including  
10 the right to seek injunctive relief, monetary penalties,  
11 reimbursement of response costs, and punitive damages for any  
12 violation of law or this Order.

13 H. EPA expressly reserves all rights and defenses that it  
14 may have, including the EPA's right both to disapprove of work  
15 performed by Respondents and to request that Respondents perform  
16 tasks in addition to those detailed in this Order, as provided in  
17 Section VIII (Work to be Performed) of this Order. EPA reserves  
18 the right to undertake removal actions and/or remedial actions at  
19 any time. EPA reserves the right to seek reimbursement from  
20 Respondents for the costs incurred by the United States in  
21 removal and remedial actions.

22 I. This Order does not release Respondents from any claim,  
23 cause of action or demand in law or equity, including, but not  
24 limited to, any claim, cause of action, or demand which lawfully  
25 may be asserted by representatives of the United States or the  
26 State of California.

27 J. No informal advice, guidance, suggestions, or comments  
28 by EPA regarding reports, plans, specifications, schedules, and

1 any other writing submitted by Respondents will be construed as  
2 relieving Respondents of their obligation to obtain such formal  
3 approval as may be required by this Order.

4 XX. NOTICE OF INTENT TO COMPLY

5 Each Respondent shall notify EPA in writing within two (2)  
6 days of the Effective Date of this Order of Respondent's  
7 irrevocable intent to comply with the terms of this Order.  
8 Failure to respond, or failure to agree to comply with this  
9 Order, shall be deemed a refusal to comply with this Order.

10 XXI. OPPORTUNITY TO CONFER

11 A. Each Respondent may, within three (3) days of receipt  
12 of this Order, request a conference with EPA's Director of the  
13 Hazardous Waste Management Division, or whomever the Director may  
14 designate. If requested, the conference shall occur within seven  
15 (7) days of the request, unless extended by mutual agreement of  
16 the Parties, at EPA's Regional Office, 75 Hawthorne Street, San  
17 Francisco, California.

18 B. At any conference held pursuant to Respondents'  
19 request, Respondents may appear in person, or be represented by  
20 an attorney or other representative. If Respondents desire such  
21 a conference, the Respondents shall contact Dave Rabbino,  
22 Assistant Regional Counsel, at (415) 744-1334.

23 C. The purpose and scope of any such conference held  
24 pursuant to this Order shall be limited to issues involving the  
25 implementation of the response actions required by this Order and  
26 the extent to which Respondents intend to comply with this Order.  
27 If such a conference is held, Respondents may present any  
28 evidence, arguments or comment regarding this Order, its

1 applicability, any factual determinations upon which the Order is  
2 based, the appropriateness of any action which Respondent is  
3 ordered to take, or any other relevant and material issue. Any  
4 such evidence, arguments or comments should be reduced to writing  
5 and submitted to EPA within three (3) calendar days following the  
6 conference. This conference is not an evidentiary hearing, and  
7 does not constitute a proceeding to challenge this Order. It  
8 does not give Respondents a right to seek review of this Order,  
9 or to seek resolution of potential liability, and no official  
10 stenographic record of the conference will be made. If no  
11 conference is requested, any such evidence, arguments or comments  
12 must be submitted in writing within three (3) calendar days  
13 following the Effective Date of this Order. Any such writing  
14 should be directed to Dave Rabbino, Assistant Regional Counsel,  
15 at the address cited above.

16 D. Respondents are hereby placed on notice that EPA will  
17 take any action which may be necessary in the opinion of EPA for  
18 the protection of public health and welfare and the environment,  
19 and Respondents may be liable under Section 107(a) of CERCLA, 42  
20 U.S.C. Section 9607(a), for the costs of those government  
21 actions.

## 22 XXII. SEVERABILITY

23 If any provision or authority of this Order or the  
24 application of this Order to any circumstance is held by a court  
25 to be invalid, the application of such provision to other  
26 circumstances and the remainder of this Order shall not be  
27 affected thereby, and the remainder of this Order shall remain in  
28 force.

1 XXIII. PENALTIES FOR NONCOMPLIANCE

2 Each Respondent is advised pursuant to Section 106(b) of  
3 CERCLA, 42 U.S.C. Section 9606(b), that willful violation or  
4 subsequent failure or refusal to comply with this Order, or any  
5 portion thereof, may subject the Respondent to a civil penalty of  
6 up to \$25,000 per day for each day in which such violation  
7 occurs, or such failure to comply continues. Failure to comply  
8 with this Order, or any portion thereof, without sufficient cause  
9 may also subject the Respondent to liability for punitive damages  
10 in an amount three times the amount of any cost incurred by the  
11 government as a result of the failure of the Respondent to take  
12 proper action, pursuant to Section 107(c)(3) of CERCLA, 42 U.S.C.  
13 Section 9607(c)(3).

14 XXIV. REIMBURSEMENT OF OVERSIGHT COSTS

15 Respondents shall reimburse EPA, upon written demand, for  
16 all response costs incurred by the United States in overseeing  
17 Respondents' implementation of the requirements of this Order.  
18 EPA may submit to Respondents on a periodic basis a bill for all  
19 response costs incurred by the United States with respect to this  
20 Order. EPA's cost summary documentation package shall serve as  
21 the basis for payment demands.

22 Respondents shall, within ten (10) days of receipt of the  
23 bill, remit a cashiers or certified check for the amount of those  
24 costs made payable to the "Hazardous Substance Superfund," to the  
25 following address:

26 Attn: Superfund Accounting  
27 U.S. EPA  
28 P.O. Box 360863M  
Pittsburg, Pa. 15251

1 Respondent shall simultaneously transmit a copy of the check to:

2                               Glenn Kistner  
3                               Remedial Project Manager (H-6-5)  
4                               Hazardous Waste Management Division  
5                               U.S. EPA, Region 9  
6                               75 Hawthorne Street  
7                               San Francisco, CA 94105

8 Payments shall be designated as "Response Costs- Ted Levine Drum"  
9 and shall reference the payor's name and address, the EPA site  
10 identification number, and the docket number of this Order.  
11

12               Interest at the rate established under Section 107(a) of  
13 CERCLA shall begin to accrue on the unpaid balance from the day  
14 of the original demand notwithstanding any dispute or objection  
15 to any portion of the costs.  
16

17 XXV. EFFECTIVE DATE

18               This Order is effective three (3) calendar days following  
19 receipt by Respondents unless a conference is requested as  
20 provided herein. If such a conference is requested, this Order  
21 shall be effective the second (2nd) calendar day following the  
22 day of such conference unless modified in writing by EPA.  
23

24 XXV. TERMINATION AND SATISFACTION

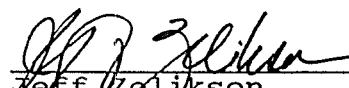
25               The provisions of this Order shall be deemed satisfied upon  
26 Respondents' receipt of written notice from EPA that Respondents  
27 have demonstrated, to the satisfaction of EPA, that all of the  
28 terms of this Order, including any additional tasks which EPA has  
determined to be necessary, have been completed.



1 IT IS SO ORDERED:

2 UNITED STATES  
3 ENVIRONMENTAL PROTECTION AGENCY

4  
5 By:

  
6 Jeff Zelikson

Director

7 Hazardous Waste Management Division  
8 Region 9

Date: 2-3-94

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## 1 EPA Region 9 Contacts:

2 Glenn Kistner  
3 Remedial Project Manager (H-6-5)  
4 Hazardous Waste Management Division  
5 U.S. EPA, Region 9  
6 75 Hawthorne Street  
7 San Francisco, CA 94105  
8 (415) 744-2252

9 Dave Rabbino  
10 Assistant Regional Counsel  
11 Office of Regional Counsel  
12 U.S. EPA, Region 9  
13 75 Hawthorne Street  
14 San Francisco, CA 94105  
15 (415) 744-1334  
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ATTACHMENT I

The following list, although not comprehensive, comprises many of the regulations and guidance documents that apply to the Investigation process:

The (revised) National Contingency Plan

"Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA," U.S. EPA, Office of Emergency and Remedial Response, October 1988, OSWER Directive No. 9355.3-01.

"Interim Guidance on Potentially Responsible Party Participation in Remedial Investigation and Feasibility Studies," U.S. EPA, Office of Waste Programs Enforcement, Appendix A to OSWER Directive No. 9355.3-01.

"A Compendium of Superfund Field Operations Methods," Two Volumes, U.S. EPA, Office of Emergency and Remedial Response, EPA/540/P-87/001a, August 1987, OSWER Directive No. 9355.0-14.

"EPA NEIC Policies and Procedures Manual," May 1978, revised November 1984, EPA-330/9-78-001-R.

"Data Quality Objectives for Remedial Response Activities," U.S. EPA, Office of Emergency and Remedial Response and Office of Waste Programs Enforcement, EPA/540/G-87/003, March 1987, OSWER Directive No. 9335.0-7B.

"U.S. EPA Region 9 Guidance for Preparing Quality Assurance Project Plans for Superfund Remedial Projects," 9QA-03-00, U.S. EPA Region 9 QAMs, September 1989.

"Users Guide to the EPA Contract Laboratory Program," U.S. EPA, Sample Management Office, August 1988.

"Health and Safety Requirements of Employees Employed in Field Activities," U.S. EPA, Office of Emergency and Remedial Response, July 12, 1981, EPA Order No. 1440.2.

OSHA Regulations in 29 CFR 1910.120 (Federal Register 45654, December 19, 1986).

Preparation of a U.S. EPA Region 9 Field Sampling Plan for Private and State-Lead Superfund Projects, Document Control Number 9QA-06-89, August, 1993, U.S. EPA Region 9, Quality Assurance Management Section.

1 ATTACHMENT II

2 The workplan shall fully address the requirements of  
3 Attachments I and III in addition to the following specific  
4 requirements:

5 Soil Gas Investigation

- 6 1. Vapor probes shall be installed at 5 and 15 feet bgs  
7 with a limited number of selected probes to  
8 approximately 25 feet bgs (depending on lithology and  
9 groundwater elevation).  
10 a) 15-foot deep vapor probes shall be installed  
11 on a regular basis, but not necessarily  
12 duplicating each 5 foot probe. Generally,  
13 this shall be at a minimum of five locations  
14 in a given area to develop any relationship  
15 to the shallower spatial pattern(s).  
16 Decisions as to the 15-foot probes need to be  
17 keyed to results of the shallower survey, and  
18 to the presence of below-grade source-type  
19 structures such as the industrial waste  
20 clarifier or any of the sumps.  
21 b) At a minimum one 25-foot deep vapor probe  
22 shall be installed in each area based on the  
23 spatial pattern resulting from the 15-foot  
24 probes.  
25 c) In addition to the spatial data, Respondents  
26 shall provide vertical profile information  
27 through nested probes installed at a minimum  
28 of three locations to ground water. The  
probes shall be monitored at least three  
times. Suggested intervals are one, three,  
and seven weeks.
- 19 2. Unless otherwise agreed to by EPA, lateral spacing on  
20 the 5-foot vapor probes shall be a minimum of 20 feet.  
21 As necessary, the initial array may be subject to  
22 iteration to lesser spacing to assure evaluation of  
23 particular sources and/or expansion to establish the  
24 margins of the affected area(s). Decisions regarding  
25 such changes shall be based upon field evaluation of  
26 the initial soil gas data sets.
- 24 3. Respondents shall provide representative measures of  
25 soil moisture conditions at the time and depths of soil  
26 gas sampling in each of the areas to be investigated.
- 26 4. Indications of vertical anisotropy (either due to  
27 soil/lithologic type changes, moisture variations,  
28 porosity effects, etc.), lateral vapor barriers or  
other conditions affecting vapor phase distributions

shall be recorded by Respondents.

5. Data collected during field sampling and laboratory analyses shall be compiled in tabular format, results reported as weight/volume (i.e.,  $\mu\text{g/l}$ ) and provided with the final report. A table of vacuum readings at each vapor probe shall also be compiled.
6. All areas of the site at which chlorinated VOCs were detected in previously collected soil samples shall be addressed. Furthermore, an acceptable number and distribution of vapor probes shall be installed to fully assess all areas of the site as noted previously by RWQCB staff. In order to assure validity of spatial patterns "step-out" to the point of "no-detect" is required.
7. Deep driven or nested vapor probes shall be installed as part of this program. These may be installed in the annular space of groundwater monitoring wells or on an individual basis. Locations for vapor probes shall be selected after consultation with EPA and RWQCB staff and based on review of the soil vapor and previous soil matrix data.

#### Selective Soil Matrix Resampling

Resampling of soil matrix shall be performed at the following locations because prior samples exceeded EPA's maximum allowable holding time for VOCs:

1. The former industrial waste clarifier (HA-1)
2. Caustic rinse floor drain "D" (HA-7)
3. Foundry cooling tower floor drain "F" (HA-4)
4. Sump outside "dip room" (HA-3)
5. Sand trap along "underground line/grated drain" (HA-5)
6. "Underground line/grated drain" (HA-6)
7. Septic tank and leachfield area (B4)

Resampling of soil matrix shall be performed at the following locations because prior samples were held in excess of seven days before analysis and therefore may not be representative of VOCs present:

1. Caustic room floor (presumed former waste lagoon) (B1 and B2)
2. x-ray darkroom drain/sump "A"
3. Pent/Mag room sump/drain "B and "C"
4. Compressor room floor drain "E"

The following locations shall be sampled because of Respondents' prior failure to sample these areas:

1. Heat treat room cooling tower sump "I"

- 1 2. Wash-up sump/drain

2  
3 Groundwater Investigation

- 4 1. Contamination from the site may have already reached  
5 groundwater and created or contributed to contamination  
6 measured in nearby public drinking water wells.  
7 Specifically, site specific flow direction, lateral and  
8 vertical components of gradient and distribution of  
9 contamination shall be established.
- 10 2. The groundwater investigation shall proceed on a  
11 parallel track with the determination of full lateral  
12 and vertical distribution of soil contamination.
- 13 3. EPA's Technical Enforcement Guidance Document (TEGD),  
14 Cal-EPA Department of Toxic Substance Control's (DTSC)  
15 Preliminary Environmental Assessment guidelines,  
16 "SUPPLEMENTARY ENGINEERING/GEOLOGIC SUBSURFACE  
17 INVESTIGATION," and appropriate American Society of  
18 Testing and Materials (ASTM) protocols shall be  
19 utilized in the preparation of the workplan.
- 20 4. An acceptable systematic workplan to assess  
21 groundwater contamination shall include the following  
22 at a minimum:
- 23 a. Delineate the full lateral extent of groundwater  
24 contamination in the saturated zone(s).
  - 25 b. Delineate the full vertical extent of groundwater  
26 contamination in the saturated zone(s).
  - 27 c. Monitor groundwater per a detailed program and  
28 testing schedule.
  - 29 d. Specify aquifer characteristics for uppermost and  
30 lowermost saturated zones, including vertical  
31 gradient component.
  - 32 e. Evaluate hydraulic connectivity existing between  
33 any discrete saturated zones.
- 34 5. Site-specific flow direction and gradient shall be  
35 fully developed through the installation of **three to**  
36 **five** piezometers. These determinations are crucial to  
37 proper evaluation of downgradient groundwater  
38 contamination and positioning of monitoring well(s).  
39 Such positioning shall take into account the site-  
40 specific flow direction, potential source areas and  
41 information from existing monitoring wells in the  
42 vicinity.
- 43 6. The assessment shall include a **minimum of eight** fully  
44 designed and constructed monitoring wells. Upgradient  
45 and downgradient groundwater conditions must be

established, therefore, a minimum of two wells shall be installed in upgradient positions. A minimum of three wells shall be installed in near-field positions directly downgradient of known sources. Specific locations for the near-field wells should be proposed based on review of the soil vapor and soil matrix data. Therefore, the wells may be installed after completion of the soil vapor work. In addition, a minimum of three wells shall be installed further downgradient of the near-field source wells to begin delineation of the lateral extent of contamination.

7. A groundwater monitoring plan for quarterly monitoring of all site wells shall be provided, including a detailed description of sampling and analytical protocols.